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HARVARD UNIVERSITY



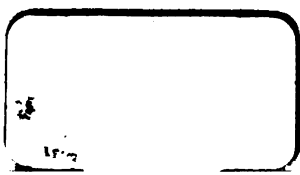
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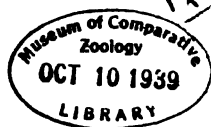
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SOUTH AUSTRALIA.

HANDBOOK OF MINING,

WITH MAPS.

ISSUED BY THE DEPARTMENT OF MINES,

Under the authority of the Hon. L. O'LOUGHLIN, M.P., Minister of Mines.

AUGUST, 1901.

FOR FREE DISTRIBUTION.

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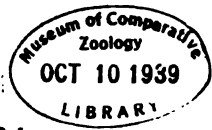
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1901.

DEPARTMENT OF MINES,
SOUTH AUSTRALIA.

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Secretary for Mines	- - - - -	THOS. DUFFIELD, J.P.
Government Geologist	- - -	HENRY Y. L. BROWN, F.G.S.
Warden and Inspector of Mines, and Inspector under		
Mining on Private Property Act	- -	W. H. MATTHEWS, J.P.
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Deputy Registrar and Clerk	- - - - -	W. W. BERRY
Officer in Charge, Tarcoola	- - - - -	L. C. E. GEE

Managers Government Batteries and Cyanide Plants :

Tarcoola	- - - - -	E. L. GRUNDY, J.P.
Petersburg and	} - - - - -	S. J. O'GRADY
Mount Torrens		

Manager Government Smelting Works :

Port Augusta	- - - - -	F. W. BICE
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REPORTS AND PLANS

ON

GEOLOGICAL FORMATIONS AND MINERAL WORKINGS, ETC.,

BY THE GOVERNMENT GEOLOGIST (HENRY Y. L. BROWN, F.G.S.),

*As set forth below, are obtainable, free of charge, at the Department of Mines,
Adelaide, on application, either personally or by letter.*

- 1883. Journey to the North-East; August 14th.
- 1883. } Geology of Country East of Farina, &c.; December, 1883, and September,
- 1884. } 1884 (with Map).
- 1885. Echunga Goldfields (with Map).
- 1885. Geological Character of Country from Port Augusta to Eucla (with Map).
- 1885. Journey to Silverton.
- 1886. Geology of Barossa and Para Wirra (with Map).
- 1886. Geological Maps of Gumeracha and Mount Crawford Goldfields (with Map).
- 1887. Uloloo Goldfields (with Map).
- 1889. Journey from Adelaide to Hale River (with Maps).
- 1889. Geological Map of Tertiary Deposits of Barossa, &c. (with Map).
- 1890. Journey from Warrina to Musgrave Ranges (with Map).
- 1890. Geological Examination of Country near Alice Springs (with Map).
- 1891. Coal-bearing Area near Leigh's Croek (with Map).
- 1891. Northern Territory Mines and Mineral Resources (with Maps).
- 1892. Country in the Neighborhood of Lake Eyre (with Maps).
- 1892. Further Geological Examinations of Leigh's Creek, &c. (with Maps).
- 1892. Catalogue of South Australian Minerals.
- 1892. General Geological Plan of South Australia.
- 1893. Annual Report.
- 1893. Additional Silurian, &c., Fossils Northern Territory, Central Australia.
- 1894. Annual Report (with Map).
- 1895. Northern Territory Explorations (with Map).
- 1897. Arltunga Goldfields and Hart's Range Micafields (with Maps).
- 1897. German Reef (with Maps).
- 1898. Explorations in Western Part of South Australia (with Maps).
- 1898. Report and Plans of Mannahill Goldfield (with Map).
- 1898. Balhannah Mine (with Map).
- 1898. Wadnaminga Goldfield (with Maps).
- 1899. Kapunda Mine (with Plan).
- 1899. Kangaroo Island (with Plan).
- 1899. Robertson's Copper Mine (with Plan).
- 1899. Wyacca Mine (with Plan).
- 1899. Record of the Mines of South Australia (Third Edition).
- 1899. Carrieton District (with Plan).
- 1900. Report on Tarcoola (with Map).
- 1901. Report on Geological Exploration of the Tarcoola District (with Plan).

THE GEOLOGICAL MAP OF SOUTH AUSTRALIA

Can be purchased (price, 10s. unmounted, or £1 mounted on rollers); also copies of
the Mining Act and Regulations at 1s. each.

LIST OF MAPS

ACCOMPANYING THE HANDBOOK OF MINING.

GENERAL MAP OF SOUTH AUSTRALIA,

Showing Localities of Discoveries of Metallic Minerals and Key to Detailed Plans, Nos. 1 to 4.

No. 1—NORTHERN DISTRICT.

No. 2—NORTH-EASTERN DISTRICT.

No. 3—LOWER NORTH DISTRICT.

No. 4—LOWER NORTH-EASTERN DISTRICT.

HANDBOOK OF MINING.

MINERAL RESOURCES.

The mineral resources of South Australia consist of vast deposits of COPPER, IRON, and SILVER-LEAD, together with GOLD, BISMUTH, TIN, MANGANESE, and COBALT. Mining operations are carried on over a relatively large area of the State (about 70,000 square miles), extending from Cape Jervis, in the south, to the Farina and Mount Fitton districts, in the north.

Other useful productions found, some of which have already developed important industries, are ANTIMONY, ASBESTOS, BITUMEN, CALCSPAR, DOLOMITE, FIRECLAY, FULLER'S EARTH, GYPSUM, KAOLIN CLAY, LIGNITE, MARBLE, MAGNESIA, MICA, NICKEL, OCHRE, RUTILE, SALT, SLATE, SOAPSTONE, SULPHUR, TOURMALINE, WOLFRAM, WHITING, &c.

The large number of mines now being worked prohibits specific mention of each in a short account of the mining industry, but detailed information is obtainable concerning them in the latest edition of "The Record of Mines of South Australia," compiled under the supervision of the Government Geologist, which is posted free on application, in addition to other pamphlets and maps published relating to special districts.

COPPER.

By far the most important metal mined for is COPPER, the Wallaroo and Moonta having truly been designated as Australia's greatest copper mine. The output of copper has had an important influence on the commercial prosperity of the State, and it is noteworthy that of the £23,240,507 which has up to the present time been declared for export at H.M. Customs as being the value of all metals exported, no less a sum than £22,297,845 is accounted for by the copper industry.

The Burra Burra Mine.

The first really important copper mine worked was the BURRA BURRA, the average yield from which was for many years from 10,000 tons to 13,000 tons of ore, yielding 22 per cent. to 23 per cent. of copper. During the period the mine was working the output of ore was 234,648 tons, equal to 51,622 tons of copper, and amounted in money value to £4,749,224. The number of men employed was 1,170. As the recent boring operations carried out by recommendation of the Government Geologist have proved the existence of copper-bearing lodes at a considerably greater depth than has yet been worked, it is hoped that ere long this mine will be the scene of a similar prosperous activity to that which existed in the past.

Wallaroo and Moonta Mines.

Following the Burra Burra there was an even more important discovery made on Yorke's Peninsula. This was the Wallaroo and Moonta group, which afterwards proved to be by far the richest copper mines discovered in Australia. Mining operations have now been carried on for forty years, and a large population has always been supported by the continued prosperity of the parent mines of the group. These mines have now yielded about £10,000,000 worth of copper. About 1,800 men are now employed on them; the deepest shaft at Moonta is 2,520ft., and at Wallaroo 1,710ft.

Northern Copper Mines.

That copper-bearing ores are very widely distributed through the State will be gathered from the fact that large payable deposits have been worked at such widely-distant parts as Blinman, Leigh's Creek, Mount Gunson, Mount Lyndhurst, Mount Fitton, Farina, Coppertop, Yudnamutana, &c. The localities named are shown on maps herewith, with the exception of Coppertop, distant about 200 miles north-west of Farina. The area of country, comprising many thousands of square miles, which has as yet been scarcely prospected, should afford a splendid field for the prospector and miner, especially when this young country is further developed in the direction of water supply and increased facilities for transit. It is encouraging to note that, in spite of these disabilities, the enhanced price of copper during the past few years has enabled prospectors in several outlying districts to work their finds at a profit from the start of operations, and it may be reasonably hoped that when the limit of profitable development is reached in the older afore-mentioned mines some of these newer finds may approach, if not equal, them in value and importance.

SILVER-LEAD.

Silver and lead are also widely disseminated through the State, and amongst the most noteworthy mines may be mentioned the Talisker, Ediacara, Aclare, Avondale, Almanda, and Eukaby (*see map*). The ore is frequently very productive of lead, whilst the silver contents, though they would be considered high in many parts of the world, are overshadowed by the richer ores obtained at the famous Broken Hill group, just over the boundary of this State. Comparatively little work is being done on our silver-lead mines at present, but if at any future time the ore is raised or the metals extracted at less cost than at present, the abundance of galena to be found in South Australia, and the silver ore yielding as high as 30 per cent., should prove highly remunerative.

GOLD.

The remarks regarding the wide distribution of copper apply in an even greater degree to the gold, though it cannot unfortunately be said that the gold mines have been within measureable distance of the copper mines as regards the value of the yield. The returns, more especially in early years, bear no proportion to the quantity actually produced, the only figures available being the value as declared at the Customs offices for export, and no account is taken of gold used in local manufactures. The major portion of the gold-bearing country to the south of Adelaide is on land which was alienated from the Crown in the early days, and consequently no returns are available.



WALLAROO SMELTING WORKS.

Alluvial.

Alluvial gold has been worked for many years in the numerous gullies in the Adelaide hills; and amongst other localities in the Northern Areas, Teetulpa may perhaps be considered the most important alluvial field, it being estimated that over £300,000 worth of gold was quickly obtained there.

Reefing.

Valuable reefing fields have been discovered in the Echunga district, at Mount Grainger, Wadnaminga, Mannahill, Nillinghoo, and other localities, and it is generally agreed that these reefs have not been developed as their undoubted richness warrants, and possibly the attention of capitalists has of recent years been diverted from them by the rich finds in Western Australia.

Tarcoola.

Gold has recently been discovered at Tarcoola, situated about 360 miles north-westerly from Adelaide, and 170 miles from the Coward Springs Railway Station. This field, from the promising, and in many cases exceedingly rich discoveries already made, appears destined to become the richest goldfield worked in South Australia. It is as yet in its infancy, and the initial difficulties in connection with a sufficient water supply are only just being overcome. When this consummation is reached and the batteries now in course of erection by the Government and private companies are in working order, it is confidently predicted by many of the mining authorities who have visited the field that it will rival in richness many of the noted discoveries of Australia. At its first crushing the battery erected by the Tarcoola Blocks Company crushed 384 tons for an average of 3½ ozs. per ton.

Gold has also been discovered and mines are being worked at Earea Dam and Glenloth, situated south-east of and distant twenty-five and fifty miles respectively from Tarcoola.

King's Bluff.

This locality is receiving a good deal of attention, due to some excellent returns which have been received from a parcel of 17 tons recently crushed at the Petersburg Cyanide Works, which yielded 4 ozs. to the ton.

Over 100 reef claims have been registered, and a number of gold leases approved. The field is situated about three miles north-west from the Olary Railway Station, being easily accessible from Adelaide.

It is considered by many visitors from the Broken Hill district to be highly promising. Mr. W. H. Matthews, the Warden and Inspector of Mines, has reported favorably on the discovery.

SALT.

Thirteen years ago 1,000 tons of salt only were gathered in this State for one year. The returns to hand for the past year total 32,574 tons.

The industry has been steadily growing, and, as the Commonwealth of Australia is now an accomplished fact and the inter-State Customs barriers will shortly be removed, the producers are looking forward to largely-increased activity in the market.

The Castle Salt Co-operative Company, Limited, and the Colonial Salt Refining Company both give employment to a large number of men.

The former company in its latest return shows that 189 men are employed in scraping salt and at the extensive refinery works which have been erected at Edithburgh. The area held by this company is 4,742 acres, situated on Yorke's Peninsula within a few miles of the port of shipment.

The latter company hold some 500 acres situated on the above-named peninsula and Kangaroo Island, and employ eighty men.

A number of farmers in the districts engage in the industry and find profitable employment.

TIN.

For some considerable time prospecting for tin has been engaged in at Earea Dam, and, judging from the result of parcels sent to the smelting works at Tasmania, the industry appears to have a favorable outlook.

PHOSPHATES.

A discovery of mineral phosphates has been made at Port Clinton, and great interest is now being taken in prospecting in that locality, resulting in the issue of a large number of licences to search under the Mining Act Amendment Act of 1900, which allows a prospecting area up to five square miles. About eighteen months ago the Government offered a bonus of £500 for the discovery of marketable deposits of mineral phosphates.

The Government Geologist early in this year visited the Far Northern country in search of phosphates, and found specimens along the Diamantina.

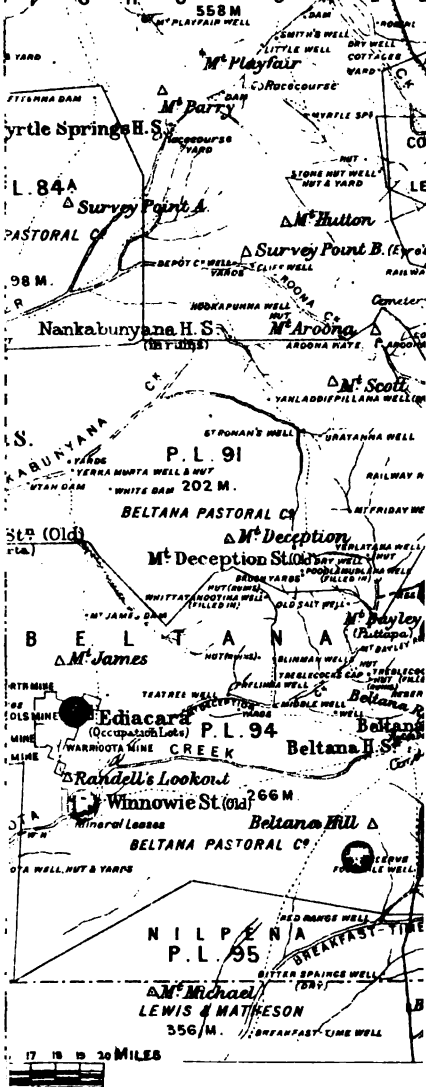
The examination of Lake Eyre and other parts in that locality was prevented by an unusually wet season.

IRON DEPOSITS.

Throughout the State there are a large number of extensive iron deposits, many of them in close proximity to the railway line and seaport towns. Large quantities are used as flux for smelting purposes, and in most localities the deposits carry a small percentage of gold, which considerably enhances the value.

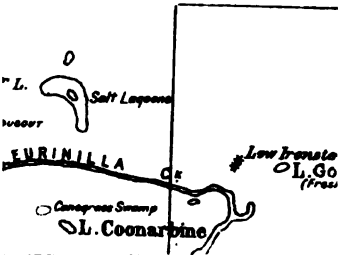
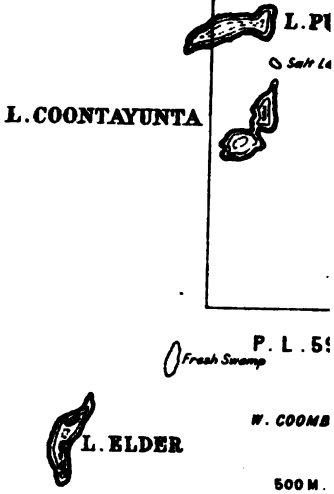
The principal deposits are located as follows:—Oodla Wirra, Crystal Brook, Blumberg, Normanville, Eurelia, Gum Creek, Mount Jagged, Beltana, Peralilla, Gladstone, and Iron Monarch, the last mentioned being an enormous deposit of very high percentage, and is leased by the Broken Hill Proprietary Company, who have almost completed the construction of a railway from False Bay (forty-five miles in length) and an expensive jetty for the purpose of supplying the Port Pirie smelters with the required flux.

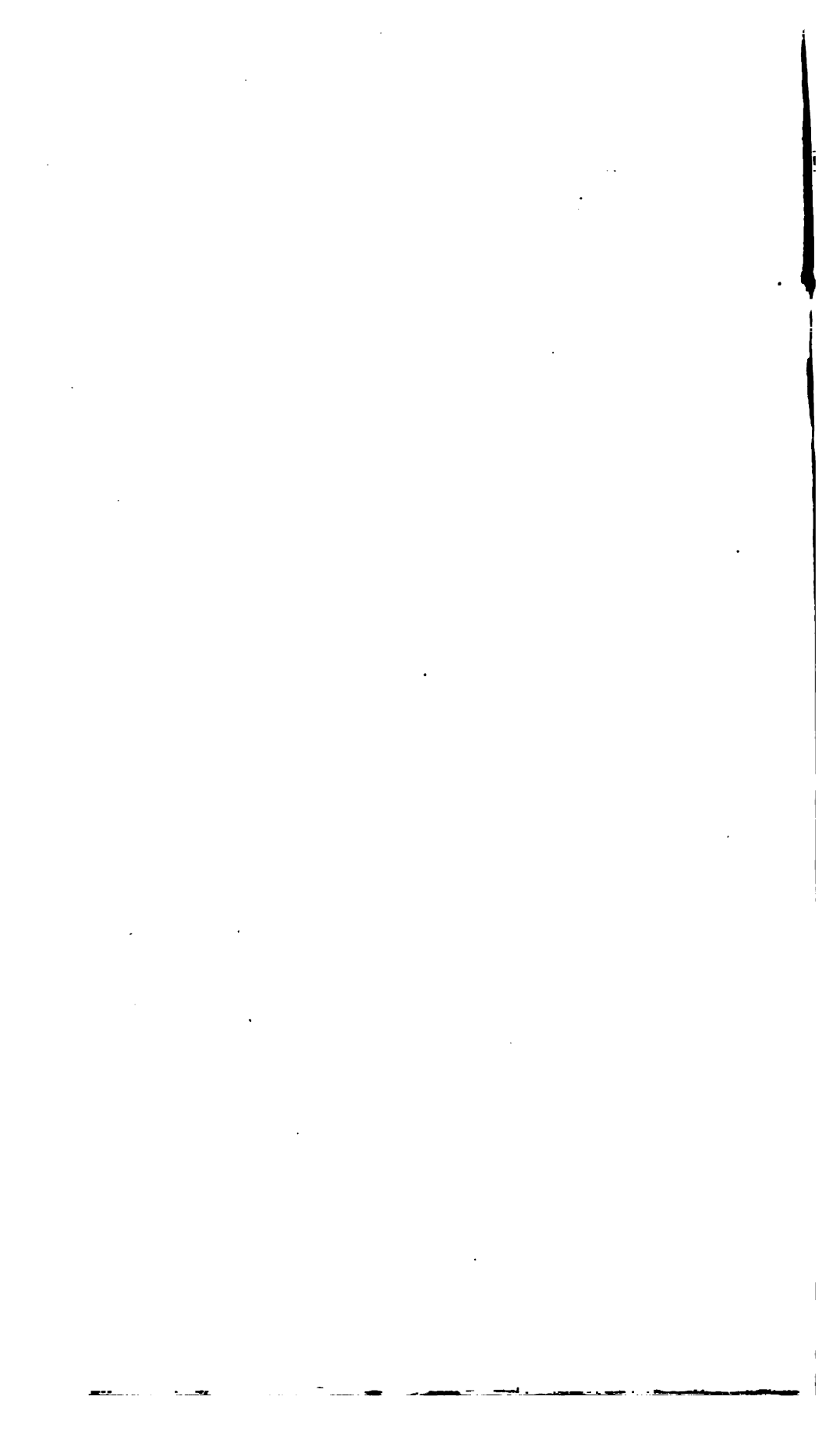
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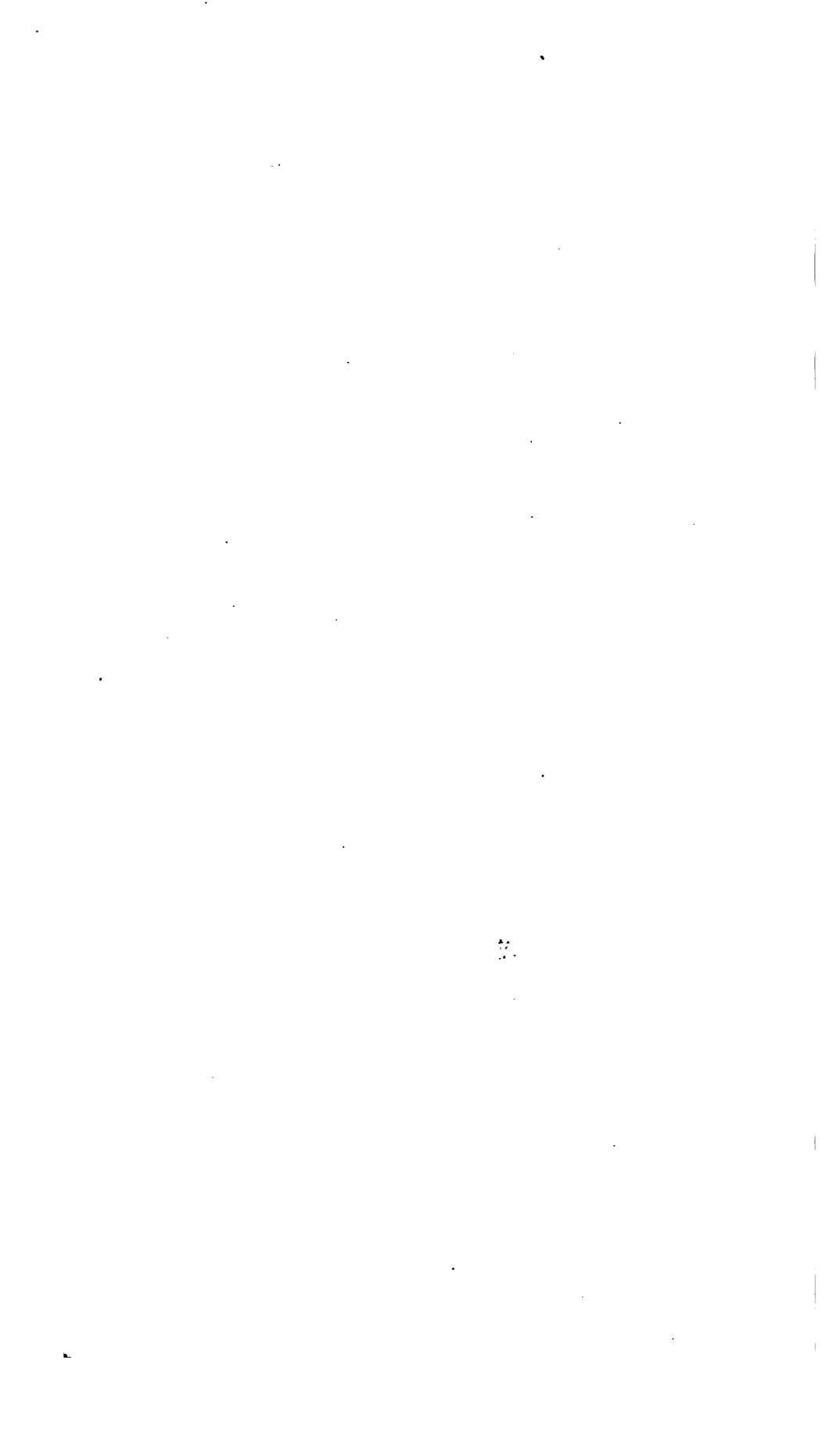
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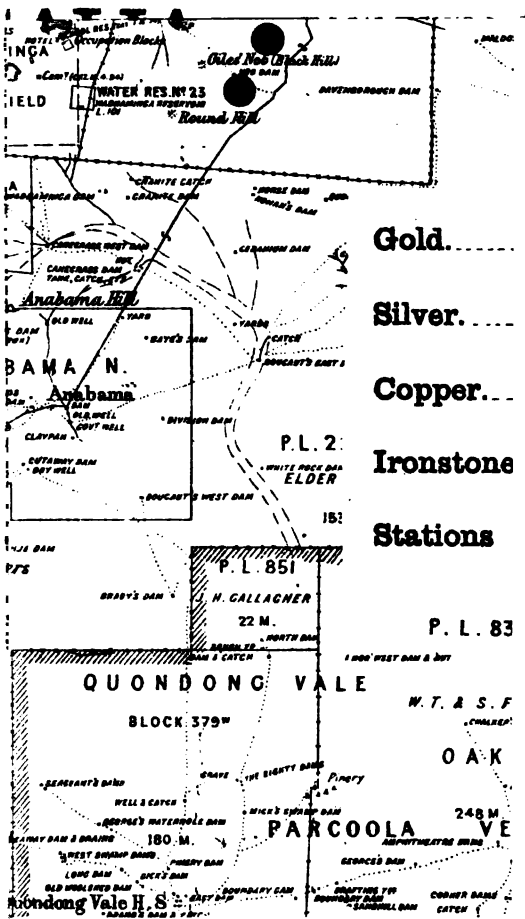
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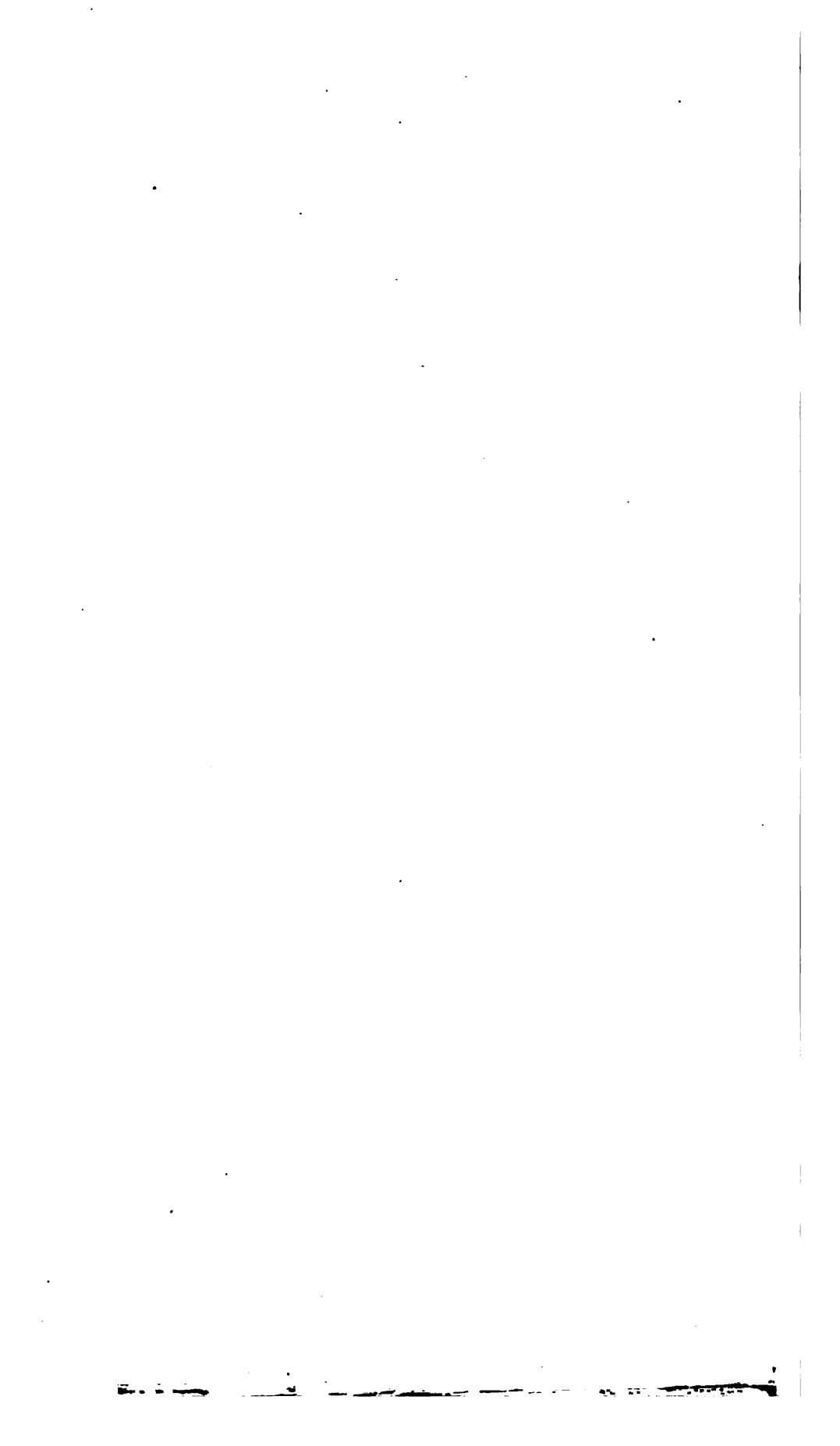
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PARCOOLA

QUONDONG VALE H.S.

- Darn
Darn
Darn
Darn
Salt
Buck

(Faint handwritten notes and markings)



A return is attached showing the quantity and value of metals and minerals, &c., exported annually from this State from the year 1840 to December 31st, 1900.

Following is an epitome of the mining laws of the State, showing the rights and privileges obtainable thereunder, and the conditions under which mining tenements, etc., can be held.

Any further information will be at once supplied on application, either personally or by post, at the office of the Department of Mines, Adelaide, South Australia.

L. O'LOUGHLIN,

Minister of Mines.

Office of the Minister of Mines, Adelaide, August 3rd, 1901.

Return of the Quantity and Value of Metals and Minerals, &c.

YEAR	COPPER.		LEAD.		COPPER ORN.		LEAD ORN.		REGULUM	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cwts.	£	Cwts.	£	Tons	£	Tons	£	Tons.	£
1840	—	—	—	—	—	—	—	—	—	—
1841	—	—	—	—	—	—	—	—	—	—
1842	—	—	—	—	—	—	—	—	—	—
1843	—	—	—	—	1½	23	18½	104	—	—
1844	—	—	—	—	277	4,009	203	2,427	—	—
1845	—	—	—	—	662½	10,874	85½	871	189	1,79
1846	—	—	17	20	6,461½	140,794	147	1,437	—	—
1847	—	—	219	203	9,152	171,883	145	2,104	—	—
1848	73	215	130	104	16,323½	310,172	682	10,452	—	—
1849	8,676	33,812	29	29	9,999	182,807	259	2,877	1	22
1850	44,595	174,574	615	393	8,784	179,316	335	2,941	208	840
1851	50,774	195,545	—	—	4,948	102,309	131	1,592	232	11,70
1852	39,187	161,847	—	—	11,311	200,301	—	—	403	12,30
1853	24,303	113,235	18	36	3,767	63,112	23	361	—	—
1854	8,119	35,312	—	—	3,247	56,784	22	425	32	2,310
1855	12,255	67,383	16	80	4,039	80,724	144	3,650	63	3,20
1856	44,980	248,460	—	—	9,468	156,351	35	377	71	2,54
1857	56,893	290,739	—	—	8,036	141,285	1,422	23,855	79	2,60
1858	47,796	250,042	—	—	6,697	104,780	853	14,200	154	4,60
1859	56,745	289,841	1,261	5,710	7,306	101,745	262	8,068	141	5,64
1860	65,429	331,775	1,824	8,275	7,097	89,130	68	2,480	338	14,87
1861	61,047	294,572	1,256	4,426	7,817	133,749	15	300	390	19,15
1862	85,872	400,591	426	981	6,216	124,263	97	2,266	418	19,518
1863	96,039	447,944	271	525	5,343	83,262	450½	9,007	39	1,65
1864	134,055	637,791	63	121	4,545	38,125	566½	13,107	52	2,40
1865	100,196	433,795	82	133	16,176	184,677	86	1,507	—	—
1866	129,272	584,509	1,351	2,991	16,824	225,683	648	11,318	—	—
1867	156,863	627,384	3,391	5,464	11,430	113,409	212	3,353	25	56
1868	104,227	400,691	3,049	5,670	20,725	207,519	76	1,245	10	21½
1869	92,788	371,566	2,936	4,471	26,835	250,259	24	296	—	—
1870	109,421	394,919	2,564	4,089	20,886	173,861	3	21	—	—
1871	127,911	518,080	3,381	5,497	20,127	119,903	—	—	—	—
1872	149,050	680,714	—	—	26,964	122,020	61	2,324	—	—
1873	141,744	635,131	14	20	27,382	133,371	—	—	—	—
1874	132,587	557,306	—	—	22,854	136,530	24	332	—	—
1875	136,835	578,065	—	—	26,436	175,101	132	66	—	—
1876	109,269	427,403	11	14	22,682	164,597	17	215	—	—
1877	102,871	397,602	371	295	18,532	165,408	6	120	—	—
1878	71,866	252,206	—	—	17,007	155,381	—	—	39½	95
1879	67,370	217,186	60	90	13,715	134,202	—	—	43½	1,401
1880	66,108	233,374	—	—	14,622	112,773	—	—	34½	1,091
1881	76,485	263,370	—	—	21,638	154,926	90	1,182	9½	20
1882	72,955	259,884	—	—	25,897	195,686	82	2,111	—	—
1883	67,975	234,780	—	—	18,687	140,545	907	13,757	—	—
1884	91,441	287,753	—	—	23,968	181,477	386	5,898	—	—
1885	70,352	194,090	152	137	18,639	128,893	37	1,496	—	—
1886	72,710	172,330	28	183	14,782	58,538	33½	602	—	—
1887	77,490	186,624	270	123	12,695	53,709	120	1,800	36½	85
1888	63,310	252,627	2,780	1,973	12,873	72,600	171½	2,550	182	2,35
1889	80,172	212,933	5,505	2,942	17,729	82,355	327½	2,332	326½	5,39
1890	59,237	155,417	—	—	15,380	71,575	523	8,452	—	—
1891	71,033	182,142	—	—	13,035	53,175	128	1,787	—	—
1892	53,074	132,040	580	334	10,596	43,485	74	521	—	—
1793	86,393	208,967	407	185	1,259	5,808	34	420	—	—
1894	98,888	208,639	74	34	309	1,963	—	—	—	—
1895	103,352	226,494	84	39	212	1,607	2	11	—	—
1896	92,069	219,052	987	707	348	3,150	—	—	—	—
1897	94,096	238,277	1,631	1,146	545	4,640	356	1,522	—	—
1898	95,414	244,865	6,316	3,806	536½	3,992	*182½	950	—	—
1899	109,912	406,208	7,282	3,782	2,892½	24,682	40	400	—	—
1900	97,727	371,920	7,650	4,382	2,367	22,526	—	†—	—	—
Total	4,269,301	15,942,021	57,101	69,410	678,993½	6,355,824	10,751½	169,489	3,516½	18,545

+ Silver-lead, value £17,526.

NOTE.—The total export for 1860 includes iron and iron ore to the value of	£411
“ “ 1874 “ “ “ “	20
“ “ 1879 “ “ “ “	812
“ “ 1880 “ “ “ “	8

Produce of the State of South Australia, Exported Annually.

COPPER AND BISMUTH.		MANGANESE.		GOLD.		SILVER.		TIN.		Unenumerated.	Total Declared Value of all Mineral Exports Annually.	YEAR
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.			
Tons.	£	Tons.	£	Ozs.	£	Ozs.	£	Cwts.	£	£	£	
—	—	—	—	—	—	—	—	—	—	—	nil	1840
—	—	—	—	—	—	—	—	—	—	—	390	1841
—	—	—	—	—	—	—	—	—	—	—	nil	1842
—	—	—	—	—	—	—	—	—	—	—	127	1843
—	—	—	—	—	—	—	—	—	—	—	6,436	1844
—	—	—	—	—	—	—	—	—	—	—	13,484	1845
—	—	—	—	—	—	—	—	—	—	—	142,251	1846
—	—	—	—	—	—	—	—	—	—	—	174,190	1847
—	—	—	—	—	—	—	—	—	—	—	320,943	1848
—	—	—	—	—	—	—	—	—	—	—	219,547	1849
—	—	—	—	—	—	—	—	—	—	—	365,464	1850
—	—	—	—	—	—	—	—	—	—	—	310,516	1851
—	—	—	—	—	—	—	—	—	—	—	374,778	1852
—	—	—	—	—	—	—	—	—	—	—	176,744	1853
—	—	—	—	—	—	—	—	—	—	—	94,831	1854
—	—	—	—	—	—	—	—	—	—	—	155,557	1855
—	—	—	—	—	—	—	—	—	—	—	408,042	1856
—	—	—	—	—	—	—	—	—	—	—	458,839	1857
—	—	—	—	—	—	—	—	—	—	—	373,282	1858
—	—	—	—	—	—	—	—	—	—	—	411,018	1859
—	—	—	—	—	—	—	—	—	—	—	446,537	1860
—	—	—	—	—	—	—	—	—	—	—	452,172	1861
—	—	—	—	—	—	—	—	—	—	—	547,619	1862
—	—	—	—	—	—	—	—	—	—	—	542,393	1863
—	—	—	—	—	—	—	—	—	—	—	691,624	1864
—	—	—	—	—	—	—	—	—	—	—	620,112	1865
—	—	—	—	—	—	—	—	—	—	—	824,501	1866
—	—	—	—	—	—	—	—	—	—	—	752,231	1867
—	—	—	—	—	—	—	—	—	—	—	616,383	1868
—	—	—	—	—	—	—	—	—	—	—	627,092	1869
—	—	—	—	—	—	—	—	—	—	—	574,020	1870
—	—	—	—	—	—	—	—	—	—	—	648,200	1871
—	—	—	—	—	—	—	—	—	—	—	806,226	1872
—	—	—	—	76½	293	—	—	—	—	—	770,590	1873
—	—	—	—	1,111	4,175	—	—	—	—	—	700,303	1874
—	—	—	—	1,802½	7,034	—	—	—	—	—	762,386	1875
—	—	—	—	2,501	9,888	—	—	—	—	—	602,317	1876
—	—	—	—	—	—	—	—	—	—	—	563,425	1877
—	—	—	—	324	1,225	—	—	—	—	—	409,749	1878
—	—	—	—	20	90	—	—	—	—	—	352,969	1879
—	—	—	—	—	—	—	—	—	—	—	347,238	1880
—	—	—	—	220	880	—	—	—	—	—	420,558	1881
—	—	—	—	764	3,080	—	—	—	—	—	461,425	1882
—	—	131	664	2,671	10,534	—	—	—	—	—	401,695	1883
—	—	333	2,079	3,970	15,469	—	—	—	—	—	490,833	1884
—	—	59	236	4,692	18,295	—	—	—	—	—	343,804	1885
—	—	—	893	8,825	32,535	—	—	—	—	—	275,173	1886
—	—	1,550	10,895	19,082	72,003	—	—	—	—	—	319,954	1887
—	—	1,452	5,114	8,728	34,205	1,929	372	100	16	—	369,989	1888
—	—	1,021	3,507	10,124	37,305	2,700	490	196	340	—	349,143	1889
—	—	1,596	5,107	5,184	20,808	—	—	—	—	—	263,645	1890
—	—	2,764	7,023	6,904	27,380	—	—	—	—	370	267,069	1891
—	—	847	1,725	6,569	26,097	—	—	193	68	792	204,051	1892
—	—	704	1,526	3,262	12,561	—	—	—	—	48	234,490	1893
—	—	2,428	6,359	8,904	33,401	—	—	—	—	190	247,515	1894
—	—	174	517	7,473	26,060	—	—	—	—	2,961	255,080	1895
—	—	48	146	4,031	14,350	—	—	—	—	723	237,857	1896
—	—	—	—	10,322	39,020	—	—	—	—	598	285,951	1897
—	—	—	—	2,798	10,676	—	—	—	—	1,346	264,849	1898
—	—	—	—	3,893	15,582	—	—	—	—	560	451,611	1899
—	—	100½	118	3,721	14,494	—	—	—	—	839	431,289	1900
—	—	—	—	—	—	—	—	—	—	441	—	—
4,402½	16,679	13,212½	46,029	127,972	487,450	4,629	862	489	424	8,868	23,240,507	Total

The total export for 1876-7 and 1881-5 includes tin to the value of £1,056
 " " 1848-9 includes emery to the value of 1,022
 " " 1865-9 includes copper precipitate to the value of 8,821
 " " 1870 includes silver to the value of 70

SUMMARY OF THE MINING ACTS AND REGULATIONS.

The Mining Act of 1893 is characterised by its extreme liberality and the inducements offered for prospecting an enormous area of practically new country.

Miners' Rights and Privileges thereunder.

A miner's right is obtainable at the Department of Mines, Adelaide, also at the issuing stations as shown on the maps herewith, at a cost of 5s.

TERM OF RIGHT.

A miner's right is in force for one year from the date of issue, and may be renewed at any time during its currency for another term of one year on payment of 5s.

PRIVILEGES UNDER RIGHT.

The holder of a miner's right is authorised to prospect on any mineral lands for any metal, mineral, coal, or oil, and to peg out (of the prescribed shape and dimensions) gold, mineral, coal, and oil claims, and also leases of a like nature.

REGISTRATION OF CLAIMS.

A fee of 2s. 6d. is charged for registration.

Gold claims must be registered forthwith and mineral claims within thirty days of pegging.

The miner's right under which the claim was pegged must be produced to the registrar before registration can be effected, and must be renewed from year to year during its currency, or the claim is liable to forfeiture.

WORKING CONDITIONS ON CLAIMS.

Gold claims must be constantly worked—one man for each claim—and mineral claim holders must employ two men for each claim. Amalgamation of either gold or mineral claims reduces the labor conditions by one-half.

LEASES.

Gold, mineral, coal, and oil leases are granted for a term of forty-two years—the two former at a rental of 1s. per acre per annum and a royalty of 6d. in the pound on net profits, the latter at a rental of 6d. per acre per annum until coal or oil is found in payable quantities, when 1s. per acre is payable and a royalty of 6d. in the pound on the net profits.

WORKING CONDITIONS.

Gold leases	One man for every five acres.
Mineral leases	One man for every ten acres.
Coal or oil leases	One man for every forty acres.

The Minister may permit for the concentration of labor of the amalgamation of from not more than four adjoining gold or mineral leases.

Miscellaneous leases are granted for salt, gypsum, mineral springs, site for smelting works and mining works. Maximum area of leases—

Gold	20 acres	Mineral springs	40 acres
Mineral	40 acres	Mining works	10 acres
Coal or oil	640 acres	Smelting works	10 acres
Salt or gypsum	640 acres		

Any number of gold, mineral, coal, or oil leases may be held by one person.



RICHMAN'S CRUSHING AND CONCENTRATING PLANT, ENGINE-HOUSE, AND DRESSING FLOORS.





HANCOCK'S CRUSHING AND CONCENTRATING PLANT, ENGINE AND BOILER HOUSE, AND POPPET HEADS OVER GREEN'S SHAFT.

Business and Occupation Licences.

Granted as prescribed in the regulations.

Licences to Search.

Under the Mining Act Amendment Act, 1900.

Licences to search for twelve months for precious stones, mineral phosphates, oil, rare metals, minerals, and earths are issued on specific mineral lands, not exceeding five square miles in area for one person, a fee of 20s. being charged for each square mile or portion thereof. These licences give a preferential right to a lease over a portion of the area, as prescribed.

Encouragement of Mining.

Subsidies are granted upon the recommendation of the Government Geologist and Inspector of Mines to persons or companies engaged in deep sinking, prospecting, or mining; and diamond drills are loaned under special conditions.

Rewards for Discoveries.

Rewards are paid out of any moneys appropriated by Parliament for that purpose.

Fees Charged under Schedule C of the Regulations.

	£	s.	d.
Registration of ordinary alluvial claims	0	1	0
Registration of all other mining tenements	0	2	6
*Registration of amalgamation of claims	0	2	6
Registration of amalgamation of leases	0	10	0
*Registration of suspension of claims	0	5	0
Registration of suspension of leases for one month	0	10	0
Registration of suspension of leases for three months	1	0	0
Registration of transfer of gold claims	0	2	6
Registration of transfers of mineral, coal, and oil claims	0	10	0
Transfer certificates (each)	0	2	6
Taking declaration ..	0	1	6
Certificate of title, whatever nature (each)	0	1	0
Copy of regulations	0	1	0
For search in Mining Register	0	1	0
Revival of leases	1	0	0
Noting transfer of lease	0	2	6
Deposit with application for forfeiture of lease	2	0	0
Licence to search under the Mining Amendment Act	1	0	0

* In addition for certificate of title, 1s.

Rebate on Carriage of Ore.

A rebate of one-third of cost of freight if carried over the railway lines for treatment is allowed to prospectors on the first 50 tons of ore raised—a concession which is largely availed of, and greatly assists prospectors in the initial development of their properties.

Free Assays.

Assays are made at the School of Mines free of cost for all samples obtained from Crown lands, while special arrangements for practical work in the laboratory can be made at very low fees.

Mining on Private Property Act, 1888, and Amending Acts of 1895 and 1899.

Provision is made under these Acts as follows:—

Part 1. Resumption of private lands.

Part 2. Proclamation of private land as an alluvial goldfield.

Part 3. Compulsory mining leases.

GOVERNMENT BATTERIES AND CYANIDE WORKS.

These plants have been established at Tarcoola, Petersburg, and Mount Torrens (in the Adelaide hills).

Gold-bearing ores are treated at these works and assays made on the following terms, viz. :—

Tarcoola Government Battery and Cyanide Works.

SCALE OF CHARGES, &c.

Treatment by Battery.

	<i>s.</i>	<i>d.</i>	
Parcels of ore yielding under 1oz. of gold per ton.....	5	0	per ton
Parcels of ore yielding over 1oz. and under 2ozs. per ton	7	6	"
Parcels yielding over 2ozs. and under 3ozs. per ton	10	0	"
Parcels yielding over 3ozs. of gold per ton.....	15	0	"

Parcels of less than 5 tons are charged as 5 tons.

Treatment of Tailings by Cyanide.

The charge for treatment of all tailings is 5s. per ton.

Parcels of less weight than 5 tons are charged as 5 tons.

The tailings from parcels treated by battery at these works are not treated by cyanide unless sufficient gold can be extracted from them to pay cost of treatment.

NOTE.—The gold recovered by battery is purchased by the Hon. the Minister for Mines unless special arrangements have been made and a cheque to cover cost of treatment has been received. All gold recovered by cyanide is purchased by the Hon. the Minister for Mines.

The bank and forwarding charges on all gold is 1s. 4d. per ounce.

The royalty on all gold recovered by cyanide is 4s. per ounce.

The cost of treatment is deducted from the value of the gold, and any surplus is forwarded to the owner of the ore in cash with official returns of the result of treatment.

Charges for Assays for Silver or Gold.

	<i>s.</i>	<i>d.</i>	
One assay	8	0	
Two assays up to five assays	7	6	each
Six assays up to ten assays.....	7	0	"
Eleven assays up to nineteen assays	6	6	"
Twenty assays or over.....	6	0	"

Gold Bullion Assay.

Assay of gold bullion	7s. 6d. each
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Charges for Smelting Gold.

Minimum charge	5s.
Additional charge for every ounce over 60ozs.	1d. per ounce

Communications to be addressed—

The Manager, Cyanide Works, Tarcoola.

Mount Torrens and Petersburg Government Batteries and Cyanide Works.

SCALE OF CHARGES, &c.

Treatment of Ore by Battery.

Parcels of 5 tons or over, 5s. per ton.

Parcels of less weight than 5 tons are charged as 5 tons.

A charge of 12s. 6d. is made for battery clean up on all parcels of ore under 20 tons.

Each parcel is crushed by itself, and a complete battery clean up made for each.

Treatment of Tailings by Cyanide.

Parcels of 5 tons or over, 5s. per ton.

Parcels of less weight than 5 tons are charged as 5 tons.

The tailings from parcels treated by battery at these works are not treated by cyanide unless sufficient gold can be extracted from them to pay cost of treatment.

The tailings from each parcel are kept separate, and are treated by cyanide in a vat by themselves.

NOTE.—The gold recovered by battery is purchased by the Hon. the Minister for Mines unless special arrangements have been made and a cheque to cover cost of treatment has been received. All gold recovered by cyanide is purchased by the Hon. Minister for Mines.

The bank charge on all gold is 1s. per ounce.

The royalty on all gold recovered by cyanide is 4s. per ounce.

The cost of treatment is deducted from the value of the gold, and any surplus is forwarded to the owner of the ore in cash with official returns of the result of treatment.

Charges for Assays for Silver or Gold.

	s.	d.
One assay	8	0
Two assays up to five assays	7	6 each
Six assays up to ten assays	7	0 "
Eleven up to nineteen assays	6	6 "
Twenty assays or over	6	0 "

Gold Bullion Assay.

Assay of gold bullion	7s. 6d. each
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Charges for Smelting Gold.

Minimum charge	5s.
Additional charge for every ounce over 60ozs.	1d. per ounce

Communications to be addressed—

The Manager, Cyanide Works, Mount Torrens

(or *Petersburg*, as the case may be).

GOVERNMENT SMELTING WORKS.

These works, situated at Port Augusta, are available for the treatment of copper ores on the following terms, viz. :—

PURCHASE OF COPPER ORES.

The copper contents of the ore shall be determined by the wet assay of copper of samples to be taken at the smelting works, less the following deductions :—

Ores less than 10 per cent. copper, deduct $1\frac{1}{2}$ units :

Ores from 10 per cent. to 20 per cent. copper, deduct 2 units :

Ores over 20 per cent. copper, deduct $2\frac{1}{2}$ units.

Full payment will be made at the Crown Lands Office, Adelaide, for ore purchased immediately on agreement of assays.

The price of copper shall be the latest quotation for copper in the telegrams of the South Australian *Register* or Adelaide *Advertiser* at the time the assay of the samples is agreed.

A returning charge, varying according to the nature of the ore, but averaging about 37s. 6d. per ton, shall be made.

The Government Smelting Works will take samples from each parcel of ore in triplicate—one for the Government, one for the seller, and one for reference in case of dispute.

The selection of a referee assayer shall be by mutual agreement between seller and Government Smelting Works. When the referee assay is made, the middle assay of the three shall be taken as the assay of the ore. The cost of the referee assay shall be borne by the party whose assay differs most widely from the referee's assay.

If the owner does not make use of his sample, the assay made by Government shall be the assay value of the ore, and the date of the assay being made shall be considered the date of agreement of the assay between the seller and the Government Smelting Works.

At the time of the agreement of assay the full copper contents of the ore will be paid for, less the above deductions and returning charge, &c.

No allowance will be made for gold or silver contents in any ore.

The product of the furnace will be "copper-matte," which will be shipped elsewhere for refining.

The ore is to be consigned and letters addressed to—

The Manager,

Government Smelting Works,

Port Augusta.

[REDACTED]

Date Due

TH 122 .S7 A5 1901
South Australia Dept. of Mines
AUTHOR
Handbook of mining, with maps.
TITLE

DATE LOANED	BORROWER'S NAME	DATE RETURNED

TN 122.57 AC 134.

DATE DUE

[illegible]

